







Appendix B
Traffic Analysis

HCM Unsignalized Intersection Capacity Analysis Seasonally Adjusted 2005 Existing Volumes

2: SR 89A & Oak Creek







Timing Plan: PM Peak Hour

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↑	↑↑	↑	
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1487	35	23	1587	21	24
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow rate (vph)	1616	41	25	1571	23	26
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL		
Median storage (veh)				1		
Upstream signal (ft)						
pX, platoon unblocked						
VC, conflicting volume			1658		2522	629
VC1, stage 1 conf vol					1637	
VC2, stage 2 conf vol					885	
VCu, unblocked vol			1658		2422	829
IC, single (s)			4.1		6.9	6.9
IC, 2 stage (s)					6.8	
IC (s)			2.2		3.5	3.3
pl queue free %			94		77	92
cm capacity (veh/h)			385		100	314
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	1078	580	25	835	835	49
Volume Left	0	0	25	0	0	23
Volume Right	0	41	0	0	0	25
cSH	1700	1700	385	1700	1700	158
Volume to Capacity	0.63	0.34	0.06	0.48	0.49	0.31
Queue Length 95th (ft)	0	0	5	0	0	31
Control Delay (s)	0.0	0.0	15.0	0.0	0.0	37.8
Lane LOS			C			E
Approach Delay (s)	0.0		0.2			37.8
Approach LOS						F
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization			52.5%		CU Level of Service	A
Analysis Period (min)			15			




















HCM Unsignalized Intersection Capacity Analysis Seasonally Adjusted 2005 Existing Volumes

4: SR 89A & Posse Ground




















Timing Plan: PM Peak Hour

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	3	↑↑	↑↑		↓	
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	53	1458	1472	19	18	76
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	58	1535	1600	21	20	83
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					(W) TL	
Median storage (veh)					1	
Upstream signal (ft)			1255			
pX, platoon unblocked	0.80				0.80	0.80
vC, conflicting volume	1521				2518	810
vC1, stage 1 conf vol					1610	
vC2, stage 2 conf vol					908	
vCu, unblocked vol	1526				2047	514
tC, single (s)	4.1				6.8	6.0
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
pD queue free %	83				78	80
cM capacity (veh/h)	318				89	405
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	58	792	792	1087	554	102
Volume Left	58	0	0	0	0	20
Volume Right	0	0	0	0	21	83
cSH	346	1700	1700	1700	1700	241
Volume to Capacity	0.17	0.47	0.47	0.63	0.33	0.42
Queue Length 95th (ft)	15	0	0	0	0	49
Control Delay (s)	17.5	5.0	5.0	0.0	0.0	30.4
Lane LOS	C					D
Approach Delay (s)	0.6			0.0		30.4
Approach LOS						D
Intersection Summary						
Average Delay			1.2			
Intersection Capacity Utilization			56.4%		ICU Level of Service	B
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis Seasonally Adjusted 2005 Existing Volumes
 6: SR 88A & Saddlerock Cir Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Free			Free				Stop			Stop	
Grade	0%			0%				0%			0%	
Volume (veh/h)	68	1279	21	5	1304	77	13	0	11	35	1	79
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	68	1390	23	5	1417	84	14	0	12	39	1	86
Pedestrians												
Lane Width (ft)												
Working Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							TWLTL			TWLTL		
Median storage (veh)							1			1		
Upstream signal (ft)					373							
oX, platoon unblocked	0.79						0.79	0.79		0.79	0.79	0.79
vC, conflicting volume	1501			1413			2345	3051	707	2272	2978	709
vC1, stage 1 conf vol							1539	1539		1428	1428	
vC2, stage 2 conf vol							808	1512		844	1560	
vCu, unblocked vol	1369			1413			2439	3330	707	2345	3233	366
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
pD queue free %	83			89			80	100	97	85	89	83
cM capacity (veh/h)	393			478			70	55	378	87	75	439
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1			
Volume Total	68	927	486	5	709	709	84	26	128			
Volume Left	68	0	0	5	0	0	0	14	35			
Volume Right	0	0	23	0	0	0	84	12	86			
cSIT	393	1700	1700	478	1700	1700	1700	112	198			
Volume to Capacity	0.17	0.55	0.29	0.01	0.42	0.42	0.05	0.23	0.64			
Queue Length 95th (ft)	16	0	0	1	0	0	0	21	93			
Control Delay (s)	16.1	0.0	0.0	12.6	0.0	0.0	0.0	46.9	50.7			
Lane LOS	C			B				E	F			
Approach Delay (s)	0.7			0.0				46.9	50.7			
Approach LOS								E	F			
Intersection Summary												
Average Delay			2.8									
Intersection Capacity Utilization			66.8%							B		
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis Seasonally Adjusted 2005 Existing Volumes
 9: SR 89A & Soldier's Pass Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Initial Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99			0.95		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00			0.97		0.95	1.00	
Satd. Flow (prot)	1770	3535		1770	3508			1722		1770	1588	
Flt Permitted	0.13	1.00		0.20	1.00			0.84		0.74	1.00	
Satd. Flow (perm)	238	3535		380	3508			1481		1385	1588	
Volume (vph)	124	1170	10	10	1253	79	10	2	7	88	2	122
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	135	1272	11	11	1362	86	11	2	8	96	2	122
RTOR Reduction (vph)	0	0	0	0	2	0	0	7	0	0	107	0
Lane Group Flow (vph)	135	1283	0	11	1443	0	0	14	0	96	17	0
Turn Type	pr+pt			pr+pt			Perm			Perm		
Protected Phases	1	6		5	2			4			4	
Permitted Phases	6			2			4			4		
Actuated Green, G (s)	96.3	91.1		84.3	82.9			12.2		13.2	13.2	
Effective Green, g (s)	97.3	92.1		85.3	83.9			14.7		14.7	14.7	
Actuated g/C Ratio	0.81	0.77		0.71	0.70			0.12		0.12	0.12	
Clearance Time (s)	4.0	5.0		4.0	5.0			5.5		5.5	5.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	313	2713		293	2653			184		170	195	
w/o Ratio Prot	0.03	0.36		0.00	0.41						0.01	
w/o Ratio Perm	0.32			0.03				0.01		0.07		
w/o Ratio	0.45	0.47		0.04	0.59			0.08		0.56	0.09	
Uniform Delay, d1	7.2	5.1		5.2	9.2			48.6		49.6	48.7	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	1.0	0.6		0.1	1.0			0.2		4.2	0.2	
Delay (s)	8.1	5.7		5.3	10.3			48.8		53.9	49.0	
Level of Service	A	A		A	B			D		D	D	
Approach Delay (s)		5.9			10.2			48.8			49.0	
Approach LOS		A			B			D			D	




















Intersection Summary

HCM Average Control Delay	11.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	62.2%	ICU Level of Service	U
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis Seasonally Adjusted 2005 Existing Volumes

11: SR 89A & Airport Rd











Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grace		0%			0%			0%			0%	
Volume (veh/h)	19	1186	59	50	1226	35	43	2	50	8	0	22
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	21	1289	64	54	1333	38	47	2	54	9	0	24
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							None				None	
Median storage (veh)												
Upstream signal (ft)		819										
pX, platoon unblocked				0.86			0.86	0.86	0.86	0.86	0.86	
vC, conflicting volume	1371			1353			2181	2312	677	2183	2836	686
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCn, unblocked vol	1371			1249			2187	2977	464	2212	2970	686
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
pX queue free %	96			89			0	79	88	37	100	94
cM capacity (veh/h)	497			476			19	10	469	14	10	402
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1			
Volume Total	21	859	494	54	666	666	38	103	33			
Volume Left	21	0	0	54	0	0	0	47	9			
Volume Right	0	0	64	0	0	0	38	54	24			
cM	497	1700	1700	476	1700	1700	1700	36	47			
Volume to Capacity	0.04	0.51	0.28	0.11	0.39	0.39	0.02	2.90	0.69			
Queue Length 95th (ft)	3	0	0	10	0	0	0	294	68			
Control Delay (s)	12.6	0.0	0.0	13.5	0.0	0.0	0.0	1094.4	181.5			
Lane LOS	B			B				F	F			
Approach Delay (s)	11.7			0.5				1094.4	181.5			
Approach LOS								F	F			
Intersection Summary												
Average Delay			40.0									
Intersection Capacity Utilization			57.4%							H		
Analysis Period (min)			15									











HCM Unsignalized Intersection Capacity Analysis Seasonally Adjusted 2005 Existing Volumes

14: Las Springs & SR 89A

Timing Plan: PM Peak Hour







						
Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Sign Control	Stop		Free		Stop	Free
Grade	0%		0%		0%	0%
Volume (veh/h)	10	8	1238	9	8	1280
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow rate (veh)	11	9	1348	10	9	1391
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWO					
Median storage (veh)	1					
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2064	678			1355	
vC1, stage 1 conf vol	1355					
vC2, stage 2 conf vol	713					
vCn, unblocked vol	2064	678			1355	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tR (s)	3.5	3.3			2.2	
pQ queue free %	93	93			98	
cM capacity (veh/h)	146	345			503	
Direction, Lane #	NW 1	NE 1	NE 2	SW 1	SW 2	SW 3
Volume Total	20	897	458	9	855	605
Volume Left	11	0	0	9	0	0
Volume Right	9	0	10	0	0	0
cSI	203	1700	1700	503	1700	1700
Volume to Capacity	0.10	0.53	0.27	0.02	0.41	0.41
Queue Length 95th (ft)	8	0	0	1	0	0
Control Delay (s)	24.6	0.0	0.0	12.3	0.0	0.0
Lane LOS	C			B		
Approach Delay (s)	24.6	0.0		0.1		
Approach LOS	C					
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			45.4 %		ICU Level of Service	A
Analyze's Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis Seasonally Adjusted 2005 Existing Volumes 22: Rolling Hills & SR 89A Timing Plan: PM Peak Hour

						
Movement	NWL	NWR	NET	NER	SWL	SWR
Lane Configurations						
Sign Control	Stop		Free		Free	Free
Grade	2%		4%			8%
Volume (veh/h)	10	10	1240	10	10	1280
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	11	1348	11	11	1391
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLT					
Median storage (veh)	1					
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2071	679			1359	
vC1, stage 1 conf vol	1353					
vC2, stage 2 conf vol	717					
vCu, unblocked vol	2071	679			1359	
tC, single (s)	5.0	8.9			4.1	
tC, 2 stage (s)	5.0					
tF (s)	3.5	3.3			2.2	
p/c queue free %	92	97			98	
ch capacity (veh/h)	145	394			502	
Direction, Lane #	NW 1	NE 1	NE 2	SW 1	SW 2	SW 3
Volume Total	22	890	460	11	356	353
Volume Left	11	0	0	11	0	0
Volume Right	11	0	11	0	0	0
cSH	212	1700	1700	302	1700	1700
Volume to Capacity	0.10	0.53	0.27	0.02	0.41	0.41
Queue Length 95th (%)	8	0	0	2	0	0
Control Delay (s)	23.9	0.0	0.0	12.3	0.0	0.0
Lane LOS	C			3		
Approach Delay (s)	23.9	0.0		0.1		
Approach LOS	C					
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			45.4%		100 Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 2: SR 89A & Oak Creek











No Build 2025
Timing Plan: PM Peak Hour

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑↑	↵	
Sign Control	Free			Free	Stop	
Grate	0%			0%	0%	
Volume (veh/h)	1720	50	30	1780	30	30
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1870	54	33	1935	33	33
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					TWLT	
Median storage (veh)					1	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1924		2929	962
vC1, stage 1 conf vol					1897	
vC2, stage 2 conf vol					1033	
vCu, unblocked vol			1924		2929	962
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
t* (s)			2.2		3.5	3.3
p0 queue free %			89		55	67
cM capacity (veh/h)			303		72	256
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	1246	678	33	967	967	63
Volume Left	0	0	33	0	0	30
Volume Right	0	54	0	0	0	33
cSEI	1700	1700	303	1700	1700	113
Volume to Capacity	0.73	0.40	0.11	0.57	0.57	0.58
Queue Length 95th (ft)	0	0	9	0	0	70
Control Delay (s)	0.0	0.0	18.3	3.0	0.0	73.6
Lane LOS			C			F
Approach Delay (s)	0.0		0.3			73.8
Approach LOS						F
Intersection Summary						
Average Delay			1.4			
Intersection Capacity Utilization			58.1%		ICU Level of Service	B
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis





















4: SR 89A & Passo Ground

No Build 2025
Timing Plan: PM Peak Hour

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	70	1690	1710	30	20	50
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	76	1837	1858	33	22	58
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					TWLT	
Median storage (veh)					1	
Upstream signal (ft)			1256			
pX, platoon unblocked	0.59				0.50	0.59
vC, conflicting volume	1891				2548	946
vC1, stage 1 conf vol					1875	
vC2, stage 2 conf vol					1071	
vCu, unblocked vol	1815				3696	210
tC, single (s)	4.1				6.8	8.9
tC, 2 stage (s)					3.8	
tF (s)	2.2				3.5	3.3
pQ queue free %	61				53	79
cM capacity (veh/h)	197				43	169
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	76	918	918	1239	652	120
Volume Left	76	0	0	0	0	22
Volume Right	0	0	0	0	33	98
cSH	197	1700	1700	1700	1700	177
Volume to Capacity	0.39	0.54	0.54	0.73	0.38	0.68
Queue length 95th (ft)	42	0	0	0	0	100
Control Delay (s)	34.4	0.0	0.0	0.0	0.0	59.8
Lane LOS	D					F
Approach Delay (s)	1.4			0.0		59.8
Approach LOS						F
Intersection Summary						
Average Delay			2.5			
Intersection Capacity Utilization			68.8%		ICU Level of Service	C
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
6: SR 89A & Saddlerock Cir




















No Build 2025
Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	80	1490	30	10	1510	90	20	5	20	40	10	90
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	87	1520	33	11	1641	98	22	5	22	43	11	98
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn lane (veh)												
Median type							TWI.TL			TWI.TL		
Median storage (veh)							1			1		
Upstream signal (ft)					373							
pX, platoon unblocked	0.59						0.59	0.59		0.59	0.59	0.59
vC, conflicting volume	1739			1652			2755	3571	826	2571	3489	821
vC1, stage 1 conf vol							1810	1810		1663	1663	
vC2, stage 2 conf vol							846	1761		1008	1826	
vCu, unblocked vol	1659			1652			3277	4055	826	3134	4517	7
IC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
IC, 2 stage (s)							6.5	5.5		6.5	5.5	
IF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue loss %	65			97			46	16	93	7	73	85
CM capacity (veh/h)	249			387			40	6	315	47	40	635
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1			
Volume Total	87	1680	572	11	821	821	98	49	152			
Volume Left	87	0	0	11	0	0	0	22	43			
Volume Right	0	0	33	0	0	0	98	22	98			
vSH	249	1700	1700	387	1700	1700	1700	34	112			
Volume to Capacity	0.35	0.64	0.34	0.03	0.48	0.48	0.03	1.45	1.38			
Queue Length 95th (ft)	36	0	0	2	0	0	0	135	262			
Control Delay (s)	27.1	0.0	0.0	14.5	0.0	0.0	0.0	494.3	279.4			
Lane LOS	D			B				F	F			
Approach Delay (s)	1.4			0.1				494.3	279.4			
Approach LOS								F	F			
Intersection Summary												
Average Delay			18.8									
Intersection Capacity Utilization			55.5%									
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis

9: SR 89A & Soldier's Pass




















No Build 2025
Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EDR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SSR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Flt	1.00	1.00		1.00	0.99			0.97		1.00	0.85	
Flt Protected	0.95	1.00		0.85	1.00			0.98		0.95	1.00	
Satd. Flow (prot)	1770	3531		1770	3505			1756		1770	1604	
Flt Permitted	0.11	1.00		0.12	1.00			0.83		0.73	1.00	
Satd. Flow (perm)	203	3531		216	3505			1485		1357	1604	
Volume (vph)	150	1360	20	20	1460	100	20	10	10	110	10	130
Peak-hour factor, P11 ²	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	163	1478	22	22	1587	109	22	11	11	120	11	141
RTOR Reduction (vph)	0	1	0	0	0	0	0	9	0	0	102	0
Lane Group Flow (vphl)	163	1499	0	22	1600	0	0	35	0	120	50	0
Turn Type	pm+pt			pm+pt			Perm			Perm		
Protected Phases	7	4		3	8			2			0	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	40.3	36.7		35.9	34.5			10.7		10.7	10.7	
Effective Green, g (s)	40.3	36.7		35.9	34.5			10.7		10.7	10.7	
Actuated g/C Ratio	0.86	0.60		0.59	0.57			0.18		0.18	0.18	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	227	2131		163	1989			281		239	282	
v/s Ratio Prot	<0.04	0.12		0.00	0.48						0.03	
v/s Ratio Perm	0.43			0.00				0.02		<0.09		
v/c Ratio	0.72	0.70		0.13	0.85			0.13		0.50	0.18	
Uniform Delay, d1	10.4	8.3		8.6	11.0			21.1		22.6	21.3	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	10.3	1.1		0.4	3.8			0.2		1.7	0.3	
Delay (s)	20.7	9.4		8.9	14.8			21.4		24.3	21.8	
Level of Service	C	A		A	B			C		C	C	
Approach Delay (s)		10.5			14.9			21.4			22.8	
Approach LOS		B			B			C			C	
Intersection Summary												
HCM Average Control Delay			13.4			HCM Level of Service				B		
HCM Volume to Capacity ratio			0.83									
Actuated Cycle Length (s)			60.5			Sum of lost time (s)				16.0		
Intersection Capacity Utilization			77.1%			ICU Level of Service				D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

11: SR 89A & Airport Rd











No Build 2025
Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SDT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	30	1380	70	50	1420	50	50	10	60	10	5	30
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	33	1500	76	55	1548	54	54	11	65	11	6	33
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)		619										
pX, platoon unblocked				0.68			0.68	0.68	0.68	0.68	0.68	
vC, conflicting volume	1508			1576			2541	3332	788	2580	3315	772
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1508			1378			2794	3955	221	2822	3831	772
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	92			81			0	0	88	0	0	90
cM capacity (veh/h)	408			338			0	2	533	0	2	312
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1			
Volume Total	33	1000	578	55	772	772	54	130	49			
Volume Left	33	0	0	55	0	0	0	54	11			
Volume Right	0	0	78	0	0	0	54	65	33			
cSI 1	408	1700	1700	338	1700	1700	1700	0	0			
Volume to Capacity	0.08	0.59	0.34	0.19	0.45	0.45	0.03	Err	Err			
Queue Length 95th (ft)	7	0	0	18	0	0	0	Err	Err			
Control Delay (s)	14.6	0.0	0.0	18.3	0.0	0.0	0.0	Err	Err			
Lane LOS	B			C				F	F			
Approach Delay (s)	0.3			0.7				Err	Err			
Approach LOS								F	F			
Intersection Summary												
Average Delay			Err									
Intersection Capacity Utilization			55.2%			ICU Level of Service			C			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

14: Les Springs & SR 89A











No Build 2025
Timing Plan: PM Peak Hour

						
Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	20	10	1440	20	10	1490
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	11	1555	22	11	1620
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL					
Median storage (veh)	1					
Upstream signal (ft)						
gX, platoon unblocked						
vC, conflicting volume	2408	793			1587	
vC1, stage 1 conf vol	1575					
vC2, stage 2 conf vol	832					
vCu, unblocked vol	2408	793			1587	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
pH queue free %	80	97			97	
cM capacity (veh/h)	140	331			410	
Direction, Lane #	NW 1	NE 1	NE 2	SW 1	SW 2	SW 3
Volume Total	33	1043	543	11	810	810
Volume Left	22	0	0	11	0	0
Volume Right	11	0	22	0	0	0
cSh	142	1700	1700	410	1700	1700
Volume to Capacity	0.23	0.61	0.32	0.03	0.48	0.48
Queue Length 95th (ft)	21	0	0	2	0	0
Control Delay (s)	37.8	0.0	0.0	14.0	0.0	0.0
Lane LOS	E			B		
Approach Delay (s)	37.8	0.0		0.1		
Approach LOS	E					
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			51.2%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis







22: Rolling Hills & SR 89A

No Build Year 2025
Timing Plan: Peak Hour

						
Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	2%		4%			6%
Volume (veh/h)	20	10	1440	20	10	1490
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	11	1585	22	11	1620
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2408	793			1507	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2408	793			1587	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	18	57			97	
cM capacity (veh/h)	27	331			410	
Direction, Lane #	NW 1	NE 1	NE 2	SW 1	SW 2	SW 3
Volume Total	33	1043	543	11	810	810
Volume Left	22	0	0	11	0	0
Volume Right	11	0	22	0	0	0
cSH	38	1700	1700	440	1700	1700
Volume to Capacity	0.85	0.61	0.32	0.02	0.18	0.18
Queue Length 95th (ft)	79	0	0	2	0	0
Control Delay (s)	257.0	0.0	0.0	11.0	0.0	0.0
Lane LOS	F			B		
Approach Delay (s)	257.0	0.0		0.1		
Approach LOS	F					
Intersection Summary						
Average Delay	2.6					
Intersection Capacity Utilization	51.2%					
Analysis Period (min)	15					
				ICU Level of Service		A







HCM Unsignalized Intersection Capacity Analysis 2: SR 89A & Oak Creek

Preferred Javelina Alternative Year 2025
Timing Plan: Peak Hour

						
Movement	EBT	EBR	WBL	WRT	NBL	NPR
Lane Configurations	↑↑		↱	↑↑	↘	
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1720	50	30	1700	30	30
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1870	54	33	1935	33	33
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn lane (veh)						
Median type					TWLT	
Median storage (veh)					1	
Upstream signal (s)				990		
pX, platoon unblocked					0.69	
vC, conflicting volume			1924		2929	962
vC1, stage 1 conf vol					1897	
vC2, stage 2 conf vol					1033	
vCu, unblocked vol			1924		3345	962
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
q0 queue free %			89		55	87
CM capacity (veh/h)			303		72	256
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	1720	50	33	967	967	66
Volume Left	0	0	33	0	0	33
Volume Right	0	54	0	0	0	33
vSI	1700	1700	303	1700	1700	113
Volume to Capacity	0.73	0.40	0.11	0.57	0.57	0.58
Queue Length 95th (ft)	0	0	0	0	0	70
Control Delay (s)	0.0	0.0	18.3	0.0	0.0	73.4
Lane LOS			C			F
Approach Delay (s)	0.0		0.0			73.4
Approach LOS						F
Intersection Summary						
Average Delay			1.4			
Intersection Capacity Utilization			59.4%		ICU Level of Service	B
Analysis Period (min)			15			























HCM Unsignalized Intersection Capacity Analysis 4: SR 89A & Posse Ground

Preferred Javelina Alternative Year 2025
Timing Plan: Peak Hour

						
Movement	EBL	EBT	WBT	WGR	SBL	SBR
Lane Configurations		↑↑	↑↑	↑		↑
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	1750	1710	30	0	30
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1913	1859	33	0	33
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					Raised	
Median storage (veh)					1	
Upstream signal (ft)			883			
pX, platoon unblocked	0.09				0.09	0.09
vC, conflicting volume	1981				2815	929
vC1, stage 1 conf vol					1059	
vC2, stage 2 conf vol					957	
vCu, unblocked vol	1842				3188	439
IC, single (s)	4.1				6.8	8.0
IC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	75
cM capacity (veh/h)	224				61	388
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	SB 1
Volumes Total	957	957	929	929	33	98
Volumes Left	0	0	0	0	0	0
Volumes Right	0	0	0	0	33	98
cSH	1700	1700	1700	1700	1700	388
Volume to Capacity	0.55	0.55	0.55	0.55	0.02	0.25
Queue Length 95th (ft)	0	0	0	0	0	25
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	17.4
Lane LOS						C
Approach Delay (s)	0.0		0.0			17.4
Approach LOS						C
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			59.5%		ICU Level of Service	D
Analysis Period (min)			15			

















HCM Signalized Intersection Capacity Analysis @ SR 89A & Saddlerock Cir

Prefared Javelina Alternative Year 2025
 Timing Plan: Peak Hour

												
Movement	EBL	EBT	EBL	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SEB
Lane Configurations												
Ideal Flow (vohpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		1.00	1.00	
Flt	1.00	1.00		1.00	1.00	0.85	1.00	0.80		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.85	1.00		0.95	1.00	
Satd. Flow (perm)	1770	8529		1770	3539	1583	1770	1635		1770	1612	
Flt Permitted	0.05	1.00		0.11	1.00	1.00	0.13	1.00		0.74	1.00	
Satd. Flow (perm)	142	3529		108	3539	1583	1170	1635		1378	1612	
Volume (voh)	80	1540	30	35	1510	90	20	5	20	40	10	90
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	1674	33	38	1641	98	22	5	22	43	11	98
RTOR Reduction (voh)	0	1	0	0	0	30	0	19	0	0	65	0
Lane Group Flow (vph)	87	1706	0	38	1641	68	22	8	0	43	24	0
Turn Type	pm+pi			pm+pt		custom	Perm			Perm		
Protected Phases	5	2		1	5			2				4
Permitted Phases	2			6		2	4			4		
Actuated Green, G (s)	62.3	62.3		80.0	80.0	62.3	12.0	12.0		12.0	12.0	
Effective Green, g (s)	62.3	62.3		80.0	80.0	62.3	12.0	12.0		12.0	12.0	
Actuated g/C Ratio	0.89	0.69		0.67	0.67	0.69	0.13	0.13		0.13	0.13	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	267	2443		197	2359	1056	156	218		184	215	
v/s Ratio Prot	0.03	0.48		0.01	0.76			0.01			0.01	
v/s Ratio Perm	0.20			0.12		0.04	0.02			0.03		
v/c Ratio	0.42	0.70		0.19	0.70	0.06	0.14	0.04		0.23	0.11	
Uniform Delay, d1	10.7	3.3		12.4	9.3	4.3	34.4	34.0		34.8	34.3	
Progression Factor	1.00	1.00		0.10	0.10	0.72	1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.4	1.7		0.3	1.0	0.1	0.4	0.1		0.7	0.2	
Delay (s)	12.0	5.0		1.5	1.8	3.3	34.9	34.0		35.5	34.5	
Level of Service	B	A		A	A	A	C	C		D	C	
Approach Delay (s)		10.0			2.0			34.4			34.8	
Approach LOS		B			A			C			C	
Intersection Summary												
HCM Average Control Delay			7.6			HCM Level of Service				A		
HCM Volume to Capacity ratio			0.62									
Actuated Cycle Length (s)			90.3			Sum of lost time (s)				8.0		
Intersection Capacity Utilization			70.2%			ICU Level of Service				C		
Analysis Period (min)			15									
Critical Lane Groups												





















HCM Unsignalized Intersection Capacity Analysis 9: SR 89A & Soldier's Pass

Preferred Javelina Alternative Year 2025
Timing Plan: Peak Hour

												
Movement	EBL	EBT	EBR	WB L	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	1570	25	0	1530	55	0	0	35	0	0	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1707	27	0	1693	60	0	0	38	0	0	38
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								Raised			Raised	
Median storage (veh)								0			0	
Upstream signal (s)		373			619							
pX, platoon unblocked	0.57			0.68			0.73	0.73	0.69	0.73	0.73	0.57
vC, conflicting volume	1723			1734			2590	3443	867	2584	3427	861
vC1, stage 1 conf vol							1720	1720		1893	1893	
vC2, stage 2 conf vol							870	1723		891	1734	
vCU, unblocked vol	1517			1618			1544	2718	364	1536	2693	17
iC, single (s)	4.1			4.1			7.5	6.5	6.8	7.5	6.5	6.9
iC, 2 stage (s)							6.5	5.5		6.5	5.5	
IF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	91	100	100	94
cM capacity (veh/h)	250			277			52	42	430	51	43	607
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	1707	588	1108	614	38	38						
Volume Left	0	0	0	0	0	0						
Volume Right	0	27	0	80	38	38						
cSH	1700	1700	1700	1700	430	607						
Volume to Capacity	0.67	0.35	0.65	0.35	0.09	0.06						
Queue Length 95th (%)	0	0	0	0	7	5						
Control Delay (s)	0.0	0.0	0.0	0.0	14.0	11.3						
Lane LOS					B	B						
Approach Delay (s)	0.0		0.0		14.0	11.3						
Approach LOS					B	B						
Intersection Summary												
Average Delay			0.3									
Intersection Capacity Utilization			54.2%		100 Level of Service				A			
Analysis Period (min)			15									











HCM Signalized Intersection Capacity Analysis 11: SR 89A & Airport Rd

Preferred Javelina Alternative Year 2025
Timing Plan, Peak Hour

												
Movement	EBL	FRT	EBR	WDL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SEB
Lane Configurations												
Ideal Flow (vph/pl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00			1.00	
Flt	1.00	0.99		1.00	1.00	0.96		0.94			0.94	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.90			0.98	
Satd. Flow (prot)	1770	3511		1770	3539	1583		1710			1706	
Flt Permitted	0.05	1.00		0.05	1.00	1.00		0.71			0.74	
Satd. Flow (perm)	176	3511		175	3539	1583		1244			1298	
Volume (vph)	275	1250	70	60	1495	100	65	10	60	120	10	110
Peak Hour Factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	299	1359	76	65	1625	109	71	11	65	130	11	120
RTOR Reduction (vph)	0	4	0	0	0	52	0	32	0	0	35	0
Lane Group Flow (vph)	299	1431	0	65	1625	57	0	115	0	0	226	0
Turn Type	pm+pt			pm+pt		Perm	Perm			Perm		
Protected Phases	1	6		5	2			4			4	
Permitted Phases	6			2		2	4			4		
Actuated Green, G (s)	55.0	58.0		47.1	47.1	47.1		17.2			17.2	
Effective Green, g (s)	55.0	58.0		47.1	47.1	47.1		17.2			17.2	
Actuated g/C Ratio	0.62	0.62		0.52	0.52	0.52		0.19			0.19	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0		4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	352	2185		177	1852	928		238			248	
v/s Ratio Prot	0.13	0.41		0.02	0.46							
v/s Ratio Perm	0.40			0.17		0.04	0.09				0.17	
v/c Ratio	0.85	0.65		0.37	0.68	0.07	0.48				0.91	
Uniform Delay, d1	28.5	10.8		14.5	18.9	10.6	32.4				35.7	
Progression Factor	0.88	0.37		1.00	1.00	1.00	1.00				1.00	
Incremental Delay, d2	13.8	0.6		1.3	8.2	0.2	1.5				34.5	
Delay (s)	33.3	4.6		15.9	25.2	10.8	34.0				70.1	
Level of Service	C	A		B	C	B	C				E	
Approach Delay (s)		9.5			29.9		34.0				70.1	
Approach LOS		A			C		C				E	
Intersection Summary												
HCM Average Control Delay		21.0		HCM Level of Service			C					
HCM Volume to Capacity ratio		0.34										
Actuated Cycle Length (s)		90.0		Sum of lost time (s)			8.0					
Intersection Capacity Utilization		84.8%		ICU Level of Service			E					
Analysis Period (min)		15										
c Critical Lane Group												











HCM Unsignalized Intersection Capacity Analysis 14: Los Springs & SR 89A

Preferred Javelina Alternative Year 2025
Timing Plan: Peak Hour

Movement						
Movement	NWL	NWR	NET	NFR	SWL	SWT
Lane Configuration						
Sign Control	Stop		Free		Free	Free
Grade	0%		0%		0%	0%
Volume (veh/h)	5	10	1440	20	10	1490
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	11	1585	22	11	1520
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn time (veh)						
Median type	TWLT					
Median storage (veh)	1					
Upstream signal (s)			1180			
pX, platoon unblocked	0.73	0.73			0.73	
vC, conflicting volume	2408	793			1587	
vC1, stage 1 conf vol	1576					
vC2, stage 2 conf vol	832					
vCu, unblocked vol	2560	344			1433	
IC, single (s)	6.6	6.9			4.1	
IC, 2 stage (s)	5.6					
IF (s)	3.5	3.3			2.2	
pD queue (veh)	94	98			37	
uM capacity (veh/h)	97	475			342	
Direction, Lane #	NW 1	NE 1	NE 2	SW 1	SW 2	SW 3
Volume Total	16	1043	543	11	810	810
Volume Left	5	0	0	11	0	0
Volume Right	11	0	22	0	0	0
cSH	207	1700	1700	342	1700	1700
Volume to Capacity	0.08	0.61	0.32	0.03	0.48	0.48
Queue Length 95th (ft)	6	0	0	2	0	0
Control Delay (s)	23.8	0.0	0.0	15.9	0.0	0.0
Lane LOS	C			C		
Approach Delay (s)	23.0	0.0		0.1		
Approach LOS	C					
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			51.2%		ICU Level of Service	A
Analysis Period (min)			15			







HCM Unsignalized Intersection Capacity Analysis 22: Rolling Hills & SR 89A

Preferred Javelina Alternative Year 2025
Timing Plan: Peak Hour

						
Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Sign Control	Stop		Free		Free	Free
Grade	2%		4%			6%
Volume (veh/h)	20	10	1440	20	10	1490
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow rate (vph)	22	11	1585	22	11	1620
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage vol						
Upstream signal (s)						
pX, platoon unblocked						
vC, conflicting volume	2408	763			1587	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2408	763			1587	
tC, single (s)	5.8	6.9			4.1	
tC, 2 stage (s)						
tH (s)	3.5	3.3			2.2	
pQ queue free %	18	97			97	
cM capacity (veh/h)	27	331			410	
Direction, Lane #	NW 1	NE 1	NE 2	SW 1	SW 2	SW 3
Volume Total	33	1043	543	11	810	810
Volume Left	22	0	0	11	0	0
Volume Right	11	0	22	0	0	0
cSH	38	1700	1700	410	1700	1700
Volume to Capacity	0.85	0.61	0.32	0.03	0.48	0.48
Queue Length 95th (ft)	79	0	0	2	0	0
Control Delay (s)	257.0	0.0	0.0	14.0	0.0	0.0
Lane LOS	F			B		
Approach Delay (s)	257.0	0.0		0.1		
Approach LOS	F					
Intersection Summary						
Average Delay	2.5					
Intersection Capacity Utilization	51.2%					
Analysis Period (min)	15					
ICU Level of Service						
A						

HCM Unsignalized Intersection Capacity Analysis 2: SR 89A & Oak Creek Blvd

Preferred Coyote Alternative Year 2025
Timing Plan: Peak Hour

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑↑	↵	
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1720	50	30	1780	30	30
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1870	54	33	1935	33	33
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right-turn lane (veh)						
Median type					TWLT	
Median storage (veh)					1	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1024		2020	967
vC1, stage 1 conf vol					1897	
vC2, stage 2 conf vol					1033	
vCu, unblocked vol			1024		2020	967
tC, single (s)			7.7		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			89		55	87
cM capacity (veh/h)			303		72	256
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	1246	678	33	967	967	65
Volume Left	0	0	33	0	0	33
Volume Right	0	54	0	0	0	33
CSH	1700	1710	303	1700	1700	113
Volume to Capacity	0.73	0.40	0.11	0.57	0.57	0.58
Queue Length 85th (%)	0	0	9	0	0	70
Control Delay (s)	0.0	0.0	18.3	0.0	0.0	73.6
Line LOS			C			F
Approach Delay (s)	0.0		0.3			73.6
Approach LOS						F
Intersection Summary						
Average Delay			1.4			
Intersection Capacity Utilization			59.4%		ICU Level of Service	B
Analysis Period (min)			15			


















```

*****
*
* 1312105 09A and POSEH Ground 17 *
*
*****
*
* E (m) 5.48 7.92 5.48 7.92 * TIME PERIOD min 50 *
* L1 (m) 10.00 10.00 10.00 10.00 * TIME SLOW min 15 *
* V (m) 3.66 7.32 3.66 7.32 * RESULTS PERIOD min 15 75 *
* RAD (m) 20.00 20.00 20.00 20.00 * TIME COST $/hr 15.00 *
* PHI (d) 10.00 10.00 10.00 10.00 * FLOW PERIOD min 15 75 *
* DIA (m) 40.00 40.00 40.00 40.00 * FLOW TYPE con/veh VER *
* GRAD SEP 0 0 0 0 * FLOW PEEK min/cg/pm PM *
*
*****
* LEB NAME *PCU *FLOWS (1st exit 2nd etc...) *FLOW*CL* FLOW RATIO *FLOW TIME*
* * * * *
* SB POSSE *1.02* 95 5 25 0 *1.00*50*0.75 1.125 0.75*15 45 75 *
* BR 39A *1.02* 50 15 20 0 *1.00*50*0.75 1.125 0.75*15 45 75 *
* NL BIRCH *1.02* 30 5 30 0 *1.00*50*0.75 1.125 0.75*15 45 75 *
* WL 39A *1.02* 30 1750 30 30 *1.00*50*0.75 1.125 0.75*15 45 75 *
* * * * *
* * * * *
* * * * *
*****
*
* FLOW veh 115 1010 65 1870 *
* CAPACITY veh 448 2260 985 2745 * ANTEL S 10.9 *
* AVE DELAY mins 0.35 0.15 0.21 0.20 * L C S B *
* MAX DELAY mins 0.60 0.26 0.35 0.36 * VEH HRS 11.7 *
* AVE QUEUE veh 1 4 0 6 * COST $ 175.7 *
* MAX QUEUE veh 1 7 0 10 *
*
*****

```

HCM Unsignalized Intersection Capacity Analysis
G: SR 89A & Saddlerock Cir

Prefarmed Coyote Alternative Year 2025
Timing Plan: Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SSR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	1590	40	0	1600	30	0	0	45	0	0	110
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vp/h)	0	1728	43	0	1738	33	0	0	49	0	0	120
Pedestrians												
Lane Width (ft)												
Walking Space (ft/s)												
Percent Blockage												
Right turn lane (veh)												
Median type								Raised			Raised	
Median storage (veh)								0			0	
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1772			1772			2738	3522	886	2652	3511	870
vC1, stage 1 conf vol							1750	1750		1739	1739	
vC2, stage 2 conf vol							886	1772		813	1772	
vCm, unblocked vol	1772			1772			2739	3522	886	2652	3511	870
IC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
IC, 2 stage (s)							9.5	5.5		6.5	5.5	
IC (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	83	100	100	59
cM capacity (veh/h)	347			347			40	48	288	47	49	295
Direction, Lane #	FR 1	EB 2	WB 1	WB 2	WB 3	NB 1	SB 1					
Volume Total	1152	620	870	870	33	49	120					
Volume Left	0	0	0	0	0	0	0					
Volume Right	0	43	0	0	33	49	120					
cSH	1700	1700	1700	1700	1700	285	295					
Volume to Capacity	0.68	0.36	0.51	0.51	0.02	0.17	0.41					
Queue Length 95th (ft)	0	0	0	0	0	15	47					
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	20.1	25.3					
Lane LOS						C	D					
Approach Delay (s)	0.0		0.0			20.1	25.3					
Approach LOS						C	D					
Intersection Summary												
Average Delay			1.1									
Intersection Capacity Utilization			27.7%			ICU Level of Service				B		
Analysis Period (min)			15									

```

*****
>
* 1412100          45A and Soldier's Pass          17
*
*****
*
* E      (m)      5.48      7.92      5.48      7.92      * TIME PERIOD      min      30
* L1     (m)      10.00     10.00     10.00     10.00     * TIME SLACK      min      15
* V      (m)      3.66      7.32      3.66      7.32      * RESULTS PERIOD   min      15 75
* RAD    (m)      20.00     20.00     20.00     20.00     * TIME COST       $/hr     15.00
* PHI    (d)      20.00     20.00     20.00     20.00     * FLOW PERIOD      min      15 75
* CIA    (m)      45.72     45.72     45.72     45.72     * FLOW TYPE       pct/veh    VEH
* GRAB SEE      0          0          0          0          * FLOW BEAK       car/or/pm   TM
*
*****
* LBS NAME *FCU *FLOW* (1st exit 2nd etc...) *FLOP*CL* FLOW RATIO *FLOW 1 FMK*
* * * * *
* EB Solid *1.02* 150 20 120 0 *1.00*50*0.75 1.125 0.75*15 45 75
* EB 88A *1.02* 30 1560 195 60 *1.00*50*0.75 1.115 0.75*15 45 75
* EB Middle*1.02* 10 10 20 0 *1.00*50*0.75 1.125 0.75*15 45 75
* EB 88A *1.02* 100 1400 20 0 *1.00*50*0.75 1.125 0.75*15 45 75
* * * * *
* * * * *
* * * * *
*****
*
* FLOW veh 285 1655 40 1580
* CAPACITY veh 337 2136 420 2108
* AVE DELAY mins 0.00 0.12 0.17 0.12
* MAX DELAY mins 0.03 0.19 0.26 0.30
* AVE QUEUE veh 1 3 0 3
* MAX QUEUE veh 2 5 0 5
*
*****

```

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*****
*
* 11:01:06                      85A and Airport Rd                      15
*
*****
*
* 3      (m)      3.48      7.92      3.48      7.92      * TIME PERIOD      min      90
* L1      (m)      10.00      10.00      10.00      10.00      * TIME PERIOD      min      75
* V      (m)      3.46      7.33      3.46      7.33      * RESULTS PERIOD min      15 75
* RAD      (m)      20.00      20.00      20.00      20.00      * TIME COST      $/hr      4.00
* RWT      (d)      20.00      20.00      20.00      20.00      * FLOW PERIOD      min      15 75
* FLA      (m)      45.72      45.72      45.72      45.72      * FLOW TYPE      pcu/veh      VEH
* GRAD SEE      0      0      0      0      * FLOW PEAK am/op/pm      PM
*
*****
* LEG NAME *FCU *FLOWS 1st exit 2nd etc... *FLOWS*CL* FLOW RATIO *FLOW TIME*
* * * * * * * * * * * * * * * * * * * * * * * * * * * *
* SE Airport*1.02* 30 5 10 0 *1.00*50*0.75 1.125 0.75*15 45 75
* EB 85A *1.02* 70 1780 30 0 *1.00*50*0.75 1.125 0.75*15 45 75
* NB Airport*1.03* 60 10 65 0 *1.00*50*0.75 1.125 0.75*15 45 75
* WB 85A *1.02* 50 1420 60 0 *1.00*50*0.75 1.125 0.75*15 45 75
* * * * * * * * * * * * * * * * * * * * * * * * * * *
* * * * * * * * * * * * * * * * * * * * * * * * * * *
* FLOW veh 45 1480 125 1530 * * *
* CAPACITY veh 536 3367 608 2245 * NOVEL 0 5.1
* AVE DELAY mins 0.12 0.00 0.11 0.19 * L O S A
* MAX DELAY mins 0.14 0.11 0.19 0.13 * VEH HRS 2.5
* AVE QUEUE veh 0 3 0 2 * COST $ 57.6
* MAX QUEUE veh 0 3 0 2 *
*
*****

```

HCM Unsignalized Intersection Capacity Analysis











14: Les Springs & SR 89A

Preferred Coyote Alternative Year 2025
Timing Plan: Peak Hour

						
Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations	YT		TT		YT	TT
Sign Control	Stop		Free		Stop	Free
Grade	0%		0%		0%	0%
Volume (veh/h)	5	10	1440	20	10	1490
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow rate (vph)	5	11	1585	22	11	1620
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn lane (veh)						
Median type	TWLT					
Median storage (veh)	1					
Upstream signal (ft)						
px, platoon unblocked						
vc, conflicting volume	2408	798			1587	
vc1, stage 1 conf vol	1578					
vc2, stage 2 conf vol	832					
vcu, unblocked vol	2408	798			1587	
tc, single (s)	6.8	6.8			4.1	
tc, 2 stage (s)	5.8					
lf (s)	3.5	3.3			2.2	
pd queue free %	95	97			97	
cm capacity (veh/h)	110	331			410	
Direction, Lane #	NW 1	NE 1	NE 2	SW 1	SW 2	SW 3
Volume Total	16	1043	543	11	810	810
Volume Left	5	0	0	11	0	0
Volume Right	11	0	22	0	0	0
ESH	192	1700	1700	410	1700	1700
Volume to Capacity	0.08	0.81	0.32	0.03	0.48	0.48
Queue Length 95th (ft)	7	0	0	2	0	0
Control Delay (s)	24.7	0.0	0.0	14.0	0.0	0.0
Lane LOS	C			E		
Approach Delay (s)	24.7	0.0		0.1		
Approach LOS	C					
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			51.2%		ICL Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 22: Rolling Hills & SR 89A

Preferred Coyote Alternative Year 2025
Timing Plan: Peak Hour

						
Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Sign. Control	Stop		Free			Free
Grade	2%		4%			6%
Volume (veh/h)	20	10	1440	20	10	1490
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	11	1565	22	11	1620
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn lane (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2400	793			1587	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol.	2400	793			1587	
tC, single (s)	8.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	18	97			97	
dM capacity (veh/h)	27	331			410	
Direction, Lane #	NW 1	NE 1	NE 2	SW 1	SW 2	SW 3
Volume Total	33	1043	543	11	610	610
Volume Left	22	0	0	11	0	0
Volume Right	11	0	22	0	0	0
pSH	38	1700	1700	410	1700	1700
Volume to Capacity	0.85	0.87	0.32	0.03	0.48	0.48
Queue Length 95th (ft)	79	0	0	2	0	0
Control Delay (s)	257.0	0.0	0.0	14.0	0.0	0.0
Lane LOS	F			B		
Approach Delay (s)	257.0	0.0		0.1		
Approach LOS	F					
Intersection Summary						
Average Delay			2.6			
Intersection Capacity Utilization			51.2%		ICU Level of Service	A
Analysis Period (min)			15			